Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of	)	
	)	
Recommendations Approved by the	)	IB Docket No. 04-286
Advisory Committee for the 2012	)	
World Radiocommunication Conference	)	
	)	

COMMENTS OF INTELSAT GLOBAL S.A.

Intelsat Global S.A. ("Intelsat") files these comments in response to the Federal Communications Commission's request for comment on two competing proposals for a new agenda item for the ITU World Radiocommunication Conference 2015 ("WRC-15").[1] Each proposal requests that the agenda for WRC-15 include the consideration of studies to be completed before 2015 to determine if mobile broadband wireless access ("BWA") systems, including IMT ("International Mobile Telecommunications"), require additional spectrum and, if so, to identify suitable spectrum. However, Proposal A requests that any additional spectrum be identified within the 400 – 6000 MHz band, whereas Proposal B requests that any new spectrum be identified within the 400 – 960 MHz, 2000 – 2483 MHz and 2500 – 3400 MHz bands. With this filing, Intelsat provides comments in support of Proposal B.

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[1] *FCC Seeks Comment of Recommendations Approved by the Advisory Comm. for the 2012 World Radiocommc'n Conference*, Public Notice, DA 11-447, IB Docket No. 04-286 (Mar. 10, 2011).

Intelsat is a global satellite capacity and service provider and operates a fleet of 52 satellites. Intelsat satellites utilize extensively frequency bands below and above 6 GHz to service its global network of customers. As such, Intelsat has billions of dollars of satellite infrastructure investment in equipment operating in the range 3400-6000 MHz and a very large stake as to which bands may potentially be used by any new system, such as BWA/IMT. Such systems introduce an additional source of interference that could disrupt the operation of Intelsat's existing customer networks and constrain the development/expansion of satellite-based businesses.

Intelsat believes that the BWA/IMT industry has to first justify the requirement for additional bandwidth. Secondly, if it is determined that additional bandwidth is required, that any spectrum be identified below 3400 MHz.

With regard to the need for additional BWA/IMT spectrum, Intelsat notes that the World Radiocommunication Conference 2007 ("WRC-07") identified additional BWA/IMT bandwidth within the 3400 – 3600 MHz band that could be used within a large number of countries. It is unknown how extensively the BWA/IMT industry has utilized these frequency bands. However, given the short amount of time that has elapsed since WRC-07 and even taking into consideration the growth of the mobile/wireless phones worldwide as well as their associated software applications, it is highly unlikely that the additional spectrum identified by WRC-07 have been substantially utilized. Hence, Intelsat believes that inclusion of a WRC-15 agenda item for still more BWA/IMT is premature. Nevertheless, Intelsat does not object to studying this matter further at a future World Radiocommunication Conference ("WRC").

As part of the WRC-07 process, the ITU-R spent approximately three years studying the impact of IMT systems on FSS receive stations operating in the FSS non-planned band of 3400 – 4200 MHz and the FSS Plan band of 4500 – 4800 MHz and published its conclusions in Report ITU-R M.2109. Subsequent to the WRC-07, the ITU-R has spent another 4 years studying the impact of BWA systems on FSS in the 3400 – 4200 MHz band with the results contained in ITU-R Document 5/218. In both cases, the ITU-R studies have shown that the interference from a transmitting BWA/IMT station is so high that it must be separated from a receiving FSS Earth station anywhere from many tens of kilometers up to approximately 100 kilometers. In short, the technical studies show that BWA/IMT and FSS systems operating in the 3400 – 4200 MHz and 4500 – 4800 MHz bands are simply incompatible. Given the extensive studies already performed by the ITU over a 7-year period, and the extensive global use of the non-Plan band by the FSS, as well as the strong opposition from a large majority of countries to the introduction of new services in the FSS Plan bands, there is no technical reason that would justify the identification of any portion of this band for use by BWA/IMT systems or justify further technical studies.

Proposal A also indicates that all or portions of the 5850 – 6000 MHz band should be considered as potential candidate bands for use by BWA/IMT systems. It must be emphasized that FSS systems utilize this band for Earth-to-space transmissions. Necessarily, FSS carriers have to be transmitted with high uplink power density levels. On the contrary, BWA/IMT receiving stations (similar to satellite receiving stations) require any interfering signal to have a very low power density level. Given this situation, a minimum distance separation of many hundreds of kilometers would need to

be maintained between a transmitting a FSS Earth station and a receiving BWA/IMT station. Again, as in the 3400 – 4200 MHz band, BWA/IMT and FSS systems are incompatible in the 5850 – 6000 MHz band.

Those frequency segments between the 3400 – 6000 MHz band that are not utilized by the FSS are generally allocated to fixed systems, radio-navigation/radio-locations systems or Earth/space exploration services. It is highly unlikely that BWA/IMT systems can share these band segments with any of these services. Moreover, it is emphasized that at higher frequencies BWA/IMT systems are subject to greater obstruction losses than at lower frequencies. Hence, the higher the frequency band, the less suitable it is for use by BWA/IMT systems.

There are more than 150 FSS satellites currently operating in the 3400 – 6000 MHz bands covering virtually the entire globe many times. These satellites provide a great variety of services including video distribution, internet access, cellular backhaul, and emergency and disaster recovery communications that are both critical and difficult to replace using existing technologies. Given the established incompatibility between FSS and BWA/IMT stations, WRC-2007 limited identification of spectrum for use by IMT systems to the band 3400-3600 MHz in some countries. No IMT spectrum identification was done in the band 3600-4200 MHz. Nothing has been shown to justify reopening this debate at this time. The sharing incompatibility remains, as does the extensive and expanding use of the band by critical FSS satellite services. Until such time as one or both of these issues change, we believe that the debate about further identification of BWA/IMT spectrum in FSS bands in the range 3400 – 6000 MHz should remain closed.

In summary, given that 1) that FSS and BWA/IMT stations are incompatible in the non-Plan and Plan FSS bands above 3400 MHz , 2) a vast majority of countries strongly opposes the inclusion of additional services in the FSS Plan bands, 3) it is unlikely that BWA/IMT systems can share those frequency segments above 3400 MHz that are not utilized by the FSS with other incumbent services, Intelsat is of the view that the bands between 3400 – 6000 MHz are simply not suitable for use by BWA/IMT systems. Accordingly, should additional bandwidth be required by BWA/IMT systems, it should not extend beyond the 3400 MHz band.

Respectfully submitted,

Intelsat Global S.A.

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